



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/738,954	12/15/2000	Benjamin F. Cravatt	SCRIP1210-2	1708

7590 12/18/2002

Lisa A. Haile, Ph.D.  
Gray Cary Ware & Freidenrich LLP  
Suite 1600  
4365 Executive Drive  
San Diego, CA 92121-2189

EXAMINER

TRAN, MY CHAU T

ART UNIT	PAPER NUMBER
----------	--------------

1639

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/738,954

Applicant(s)

CRAVATT ET AL.

Examiner

My-Chau T. Tran

Art Unit

1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 1-16, 18-31, 41 and 47-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17, 32-40 and 42-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11 & 15.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group IV (Claims 17, 32-40, and 42-46) in Paper No. 14 is acknowledged. The traversal is on the ground(s) that that Group IV, Group III (Claims 11-16, 19-26, 41, 47-52, 38-40, and 42-46), and Group VII (Claims 18, 32-40, and 42-46) should be joined for the claims grouped separately are not independent and distinct and therefore, the examination of Groups III, IV, and VII cannot constitute a serious burden. These arguments have been fully considered but are not found to be persuasive for the reasons below.

First, the classification system has no statutory recognition whether inventions are independent and distinct. For example, each class and subclass is comprised of numerous completely independent and distinct inventions.

Second, MPEP 803 states that restriction is proper between patentably distinct inventions where the inventions are (1) independent or distinct as claimed and (2) a serious search and examination burden is placed on the examiner if restriction is not required.

The term "distinct" is defined to mean that two or more subjects as disclosed are related, for example, as product and method of use, but are capable of separate manufacture, use or sale as claimed, and are patentable over each other (see MPEP 802.1). In the instant situation, the inventions of Groups III, IV, and VII are drawn to distinct inventions, which are related as separate methods capable of separate functions. Restrictions between the inventions are deemed to be proper for the reason previously set forth.

In regard to burden of search and examination, MPEP 803 states that a burden can be shown if the examiner shows either separate classification, different field of search or separate

Art Unit: 1639

status in the art. Group III (Claims 11-16, 19-26, 41, 47-52, 38-40, and 42-46) is classified in class 435, subclass 7.8, Group IV (Claims 17, 32-40, and 42-46) is classified in class 436, subclass 161, and Group VII (Claims 18, 32-40, and 42-46) is classified in class 435, subclass 4. In the instant case a burden has been established in showing that the inventions of Groups III, IV, and VII are classified separately necessitating different searches of issued US Patents in different classes and subclasses. However, classification of subject matter is merely one indication of the burdensome nature of search. The literature search, particularly relevant in this art, is not co-extensive, because for example a patentability determination for Group IV would involve a determination of the patentability of the method step for determining the presence of the target members in which the presence of the target members conjugated to the probes *is indicative* of the presence of the active target members while a patentability determination for Group III would involve a consideration of the patentability of the method step for determining the presence of the target members in which the presence of *a greater amount* of the target members conjugated to the probes in the first portion than the second portion that is *inactivated* of the proteomic mixture *is indicative* of the presence of the active target members. These considerations are very different in nature. Additionally, it is submitted that the inventions of Groups III, IV, and VII have acquired a separate status in the art. Clearly different searches and issues are involved in the examination of each Group.

For these reasons, the restriction requirement is deemed to be proper and is therefore made **FINAL**.

Art Unit: 1639

2. Claims 1-16, 18-31, 41, and 47-52 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 14.
3. Claims 17, 32-40, and 42-46 are treated on the merit in this Office Action.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 44-46 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

The instant claims recite the activity-based probe(s) are selected from the group consisting of Sulfonate 1 – Sulfonate 17.

The recitation of ‘Sulfonate 1 – Sulfonate 17’ claimed in claims 44 and 46, have no clear support in the specification and the claims as originally filed. The specification in page 29 disclosed ‘sulfonyl groups may include sulfonates, sulfates, sulfinates, sulfamates, etc.’ (line 7) is not support for ‘Sulfonate 1 – Sulfonate 17’. Because the broad limitation of the specification recites the sulfonyl groups, does not support the narrow limitation of the claim, which recites a specific Sulfonate 1 thru Sulfonate 17. Therefore, the specific limitation of Sulfonate 1 –

Art Unit: 1639

Sulfonate 17 would not be encompassed by the scope of the invention as originally disclosed in the specification.

If applicants disagree, applicant should present a detailed analysis as to why the claimed subject matter has clear support in the specification.

6. Claims 42-46 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

a) The term "Sulfonate 1 – Sulfonate 17" of Claim 44 and 46 is vague and indefinite. It is unclear what is "Sulfonate 1"? Is there a structure? Is this a designation of attachment site?

b) The term "Sulfonate 15" of Claim 45 is vague and indefinite. It is unclear what is "Sulfonate 15"? Is there a structure? Is this a designation of attachment site?

c) In claim 42, the acronym "FP" is not defined in the claim so that those who are ordinary skills in the art would know applicant intended meaning. It should be define on its first appearance.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1639

8. Claims 17, 32-36, 38-40, 42, and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Liu et al. (*PNAS*, 1999, 96(26): 14694-14699).

Liu et al. disclosed a method of activity-based protein profiling using an active site directed probe (Abstract). The probe is a biotinylated fluorophosphonate, FP-biotin, (referring to claims 35, 38-40, 42, and 46) (pg. 14694, left col., lines 30-33). The method steps of reacting protein samples (proteomic mixture) with FP-biotin (activity-based probe) include combining FP-biotin mixture with the protein samples and detecting the FP-biotin-reactive proteins by SDS/PAGE-Western Blotting (pg. 14695, right col., lines 26-64) (referring to claim 17). The FP-biotin-reactive proteins are further analyzed by MALDI mass spectrometry (pg. 14696, left col., lines 11-15) (referring to claims 32-33). FP-biotin can react with numerous serine hydrolyses (target enzyme) in crude cell and tissue samples (pg. 14698, left col., lines 1-8) (referring to claim 36). Therefore, the method of Liu et al. anticipates the claim invention.

9. Claims 17 and 34-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Zuck et al. (US Patent 4,281,061).

Zuck et al. disclosed an assay method for determining small amount of organic compounds in a wide variety of media by employing an organic receptor, which recognizes a specific molecule (col. 2, lines 29-34). The method includes combining the sample with labeled ligand (activity-based probe) and detecting the signal produced from the reaction (col. 4, lines 41-53). The sample includes proteins (col. 4, lines 2-4). The method of Zuck et al. anticipates the claimed invention.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 17 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (*PNAS*, 1999, 96(26): 14694-14699) in view of Blanchard et al. (US Patent 5,151,164).

The method of activity-based protein profiling of Liu et al. applied for the reasons discussed above.

Liu et al. does not expressly disclose that the protein is detected by capillary electrokinetic analysis.

Blanchard et al. disclose an apparatus for improving the capillary electrophoretic processes (col. 2, lines 21-23). The capillary electrophoresis apparatus can be employed in the



Art Unit: 1639

electrophoretic resolution of a wide variety of solutions and suspension including protein and polypeptides (col. 3, lines 51-68). The enhanced capillary zone electrophoretic apparatus and process would provide low volume capability, high separation efficiency, and sensitive detection scheme.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include capillary electrokinetic analysis as taught by Blanchard et al. in the method of Liu et al. One of ordinary skill in the art would have been motivated to include capillary electrokinetic analysis in the method of Liu et al. for the advantage of low volume capability, high separation efficiency, and sensitive detection scheme (Blanchard: col. 3, lines 65-68). Since both Liu et al. and Blanchard et al. disclose a method of detecting protein by electrophoresis (Liu: pg. 14695, right col., lines 26-64; Blanchard: col. 3, lines 51-68).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to My-Chau T. Tran whose telephone number is 703-305-6999. The examiner is on ***Increased Flex Schedule*** and can normally be reached on Monday: 8:00-2:30; Tuesday-Thursday: 7:30-5:00; Friday: 8:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang can be reached on 703-306-3217. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Application/Control Number: 09/738,954

Page 9

Art Unit: 1639

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1123.

mct

December 15, 2002

  
PADMASHRI PONNALURI  
PRIMARY EXAMINER